

REMARKS/ARGUMENTS

The present application has been reviewed in light of the Final Office Action dated March 9, 2009 and the Advisory Action mailed on May 22, 2009. Claims 1-72 are pending in this application. Claims 1 and 6 have been amended; claims 70-72 have been added; and claims 12-69 have been previously withdrawn. Applicants respectfully request reconsideration of these rejections and reexamination of the above-identified application in view of the amendments made to the claims and the remarks below.

Applicants respectfully reserve the right to file at least one divisional application to non-elected claims 12-69.

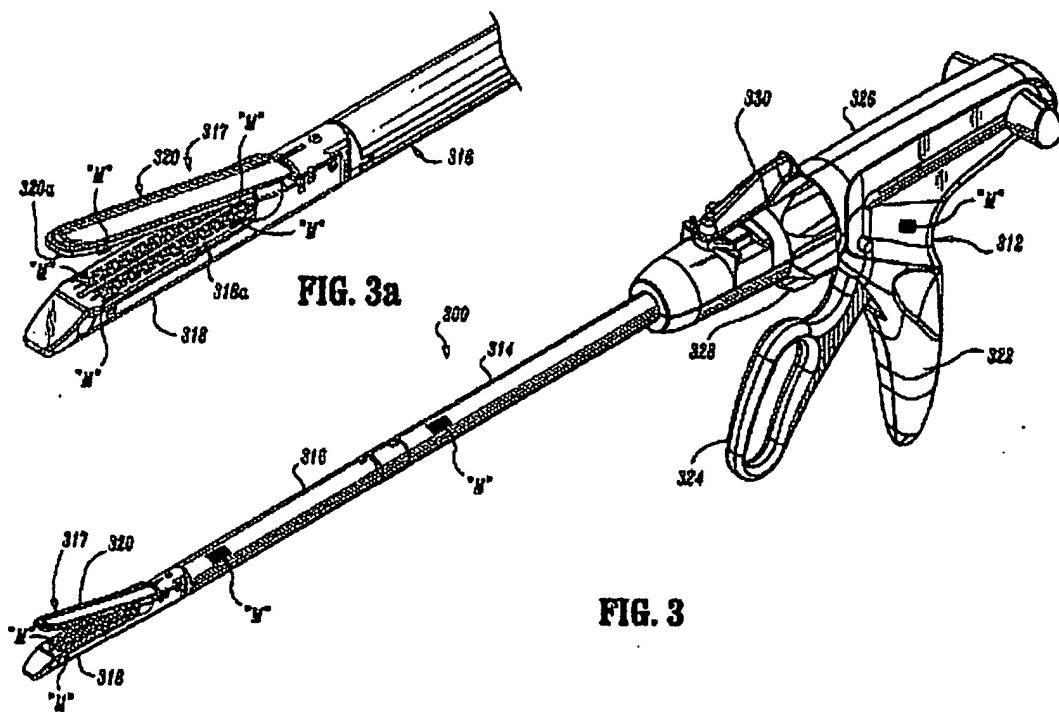
In the Final Office Action dated March 9, 2009, Claims 1-9 and 11 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,716,233 to Whitman (hereinafter "Whitman"). Applicants respectfully submit that claim 1, as amended herein, is allowable over Whitman.

MPEP §2131 states that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." (*Citing Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)).

Applicants submit that Whitman does not anticipate each and every element of amended independent claim 1. Independent claim 1 presently recites, in part, a plurality of micro-electromechanical system (MEMS) devices disposed along an entire length of the surgical

instrument for at least one of sensing a condition, measuring a parameter and controlling the condition and/or parameter adjacent the end effector, wherein each MEMS device is a single integral device that is operationally independent of other MEMS devices configured to communicate with the surgical instrument and at least one of the MEMS devices is a two or three dimensional acceleration measuring device for determining the position of the surgical instrument relative to target tissue.

As seen in at least FIGS. 1-4 of the present disclosure (only FIGS. 3, 3A being reproduced below by way of example), the surgical stapling instrument includes several MEMS "M" that are disposed along the entire length of the surgical instrument.



Moreover, according to the present disclosure, when accelerometer MEMS devices "M" are employed and suitably integrated as two or three orthogonal assemblies, they effectively constitute a two-dimensional or three-dimensional acceleration measuring device or gyroscope type device when provided with a known point of origination and appropriately configured computer system. MEMS devices "M" can be employed as a passive system for tracking the distance between the jaws, position of the instrument relative to the target tissue portion and duration of treatment. (see page 22, lines 8-14 of the application as filed)

Whitman does not disclose "...wherein there is a plurality of MEMS devices positioned across an entire length of the surgical instrument," as recited in amended independent claim 1. Whitman further does not disclose "wherein each MEMS device is a single integral device that is operationally independent of other MEMS devices configured to communicate with the surgical instrument and at least one of the MEMS devices is a two or three dimensional acceleration measuring device for determining the position of the surgical instrument relative to target tissue," as recited in amended independent claim 1.

In particular, Whitman is directed to a medical tool comprising an electromechanical driver and a surgical instrument attachment for use in invasive surgery, including a handle coupled to a flexible sheath which is in turn coupled to a surgical attachment (Abstract). The stapling attachment comprises an anvil portion 202, and a staple, blade, sensor, and reservoir (SBSR) portion 204. SBSR portion 204 includes a pair of turning drive shafts 206a, 206b, and a pulse oximeter sensor 150 and tissue proximity sensors 152 (column 9, lines 41-57).

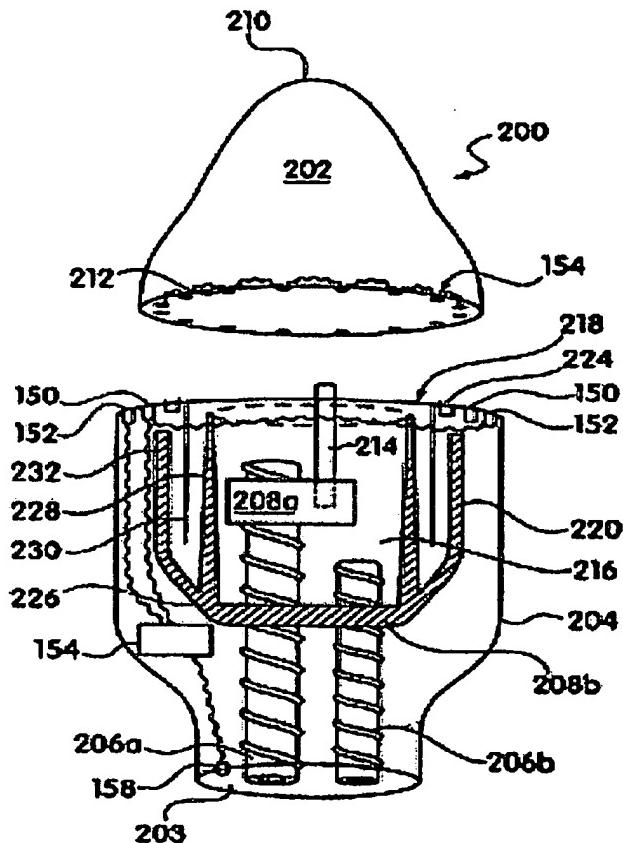


FIG. 3

Additionally, with regard to FIG. 3, Whitman states that the pulse oximeter comprises a series of light emitting elements 154 on the anvil and light sensors 150 mounted around the circumferential rim of the housing member (column 10, lines 15-20). Thus, as seen in FIG. 3 above, the sensors 150, 152 are positioned only along the juxtaposed tissue contacting surfaces of anvil portion 202 and SBSR 204.

In contrast, in the present disclosure, a plurality of MEMS devices are disposed along an entire length of the surgical instrument, as clearly illustrated in FIGS. 3, 3A (reproduced above).

Additionally, in the present disclosure, the MEMS are positioned (i) on the inner clamping portion of the end effector 317, (ii) on the disposable loading unit 316, (iii) on the elongated body 314, and (iv) on the handle assembly 312. Support for such feature(s) can be found at least from FIG. 3 and page 15, line 29 to page 16, line 2. In other words, the MEMS are distributed throughout the instrument and not confined to the outer perimeter of an end effector or solely at the end effector, as in Whitman. In contrast, the MEMS of the present disclosure are disposed along several portions of the surgical instrument, and across the entire length of the surgical instrument in a variety of configurations.

Moreover, Whitman fails to provide any teaching or disclosure of each MEMS device being a single integral device that is operationally independent of other MEMS devices configured to communicate with the surgical instrument and at least one of the MEMS devices being a two or three dimensional acceleration measuring device for determining the position of the surgical instrument relative to target tissue, as recited in amended independent claim 1.

Applicants therefore respectfully submit that, in view of the amendments made to claim 1 herein, and in view of the arguments presented above, that claim 1 is allowable over Whitman. Since claims 2-9 and 11 depend, either directly or indirectly, from claim 1 and contain all of the features of claim 1, for the arguments overcoming the rejection to claim 1 are applicable as well to claims 2-9 and 11.

In the Final Office Action, Claim 10 was rejected under 35 U.S.C 103(a) as being unpatentable over Whitman, as applied to claim 9 above, in view of U.S. Application No.

2004/0267310 to Racenet et al. (hereinafter "Racenet"). Applicants submit that claim 10, is allowable over the applied combination of Whitman and Racenet.

Claim 10 depends from claim 1 and contains all of the features thereof. At least for the reasons presented above, it is respectfully submitted that the subject matter of claim 10 as a whole is also patentable over Whitman in view of Racenet.

Additionally, the Examiner relies on Racenet for the disclosure of either a linear or annular surgical stapler. However, even assuming the teachings of Racenet proffered by the Examiner, Applicant submits that Racenet would fail to cure any deficiencies of Whitman as it relates to underlying independent claim 1 because Racenet fails to teach or suggest "...a plurality of micro-electromechanical system (MEMS) devices disposed along an entire length of the surgical instrument for at least one of sensing a condition," as recited in amended independent claim 1.

In view of the foregoing, for at least the reasons that amended independent claim 1 is allowable over Whitman in view of Racenet under 35 U.S.C. §103(a), *inter alia*, Applicant respectfully submits that claim 10 is also allowable over Whitman in view of Racenet under 35 U.S.C. §103(a).

Applicants have further added new Claims 70-72 herein. Applicants submit that Claims 70-72 are allowable over the art of record. No new matter has been introduced by the addition of new claims 70-72. Support for Claims 70-72 can be found at least from FIGS. 3, 3A of the present disclosure.

Accordingly, it is respectfully submitted that Applicants' amendments and/or remarks overcome the rejections of the Final Office Action and the Advisory Action with respect to claims 1-11 and put said claims (i.e., Claims 1-11 and 70-72) in condition for allowance. Applicants request reconsideration and reexamination of the application in view of the amendments made to the claims and the remarks above.

In light of these amendments and remarks, favorable consideration and allowance of all outstanding claims are earnestly solicited. Should there be any questions after the Examiner's review of this paper; the Examiner is invited to contact the undersigned at either of the numbers indicated below.

Respectfully submitted,



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